

THE BURDEN OF OVERWEIGHT AND OBESITY IN RHODE ISLAND 2011



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INTRODUCTION

The Rhode Island Department of Health (HEALTH) Initiative for a Healthy Weight (IHW) program has prepared this report to highlight the prevalence of overweight and obesity among Rhode Islanders. Although substantial attention has been focused on the obesity epidemic in the United States, obesity rates have continued to increase throughout the state. Overweight and obesity have been increasing at alarming rates and research has linked these conditions to life-threatening health problems such as diabetes, and early development of chronic diseases, including hypertension and asthma. Obesity is a leading contributor to premature death, second only to tobacco.

This report illustrates the impact of overweight and obesity in Rhode Island including risk factors, trends, disparities, and comparisons between the state and the rest of the country. Data presented in this report will support the efforts of the IHW program and its partners to develop and implement evidence-based programs, policies, and projects that will decrease obesity and related chronic diseases.



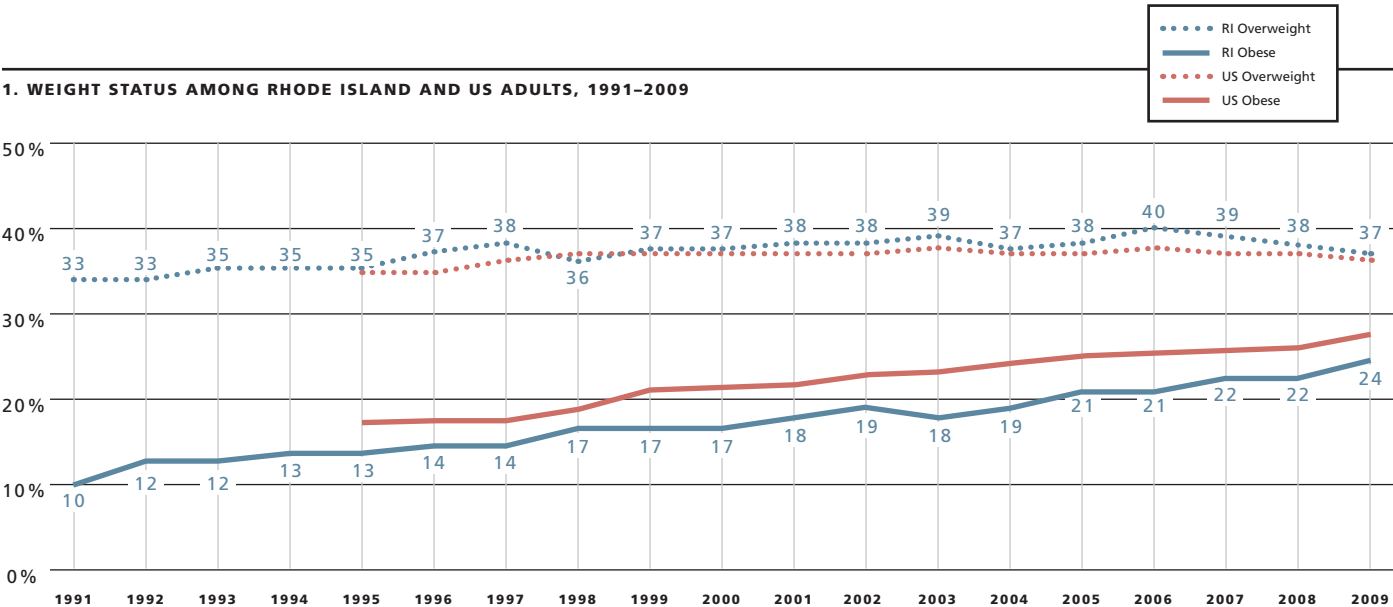


OVERWEIGHT AND OBESITY AMONG RHODE ISLAND ADULTS

Obesity and overweight continued to burden Rhode Island in 2011. The proportion of adults who were overweight or obese increased in Rhode Island and in the United States. Overweight and Obesity data for Rhode Island adults comes from the Behavioral Risk Factor Surveillance System (BRFSS), a telephone survey that collects self-reported information on the health risk behaviors, preventive health practices and healthcare access primarily related to chronic disease and injury. Overweight and obesity were determined using weight and height to calculate the Body Mass Index (BMI) by using weight in pounds divided by height in meters

squared. Self-reported data are usually associated with slightly under-reporting of weight among women and slightly over-reporting of height among men compared with studies that actually measured height and weight. This bias means that it was highly likely that overweight and obesity were even more common than these data indicated.

Sixty-one percent of adult Rhode Islanders reported a height and weight that was consistent with overweight (37%) or obesity (24%).



Data Sources: BRFSS, Rhode Island Department of Health, and Centers for Disease Control and Prevention, 1991–2009

Health Conditions Associated with Overweight and Obesity

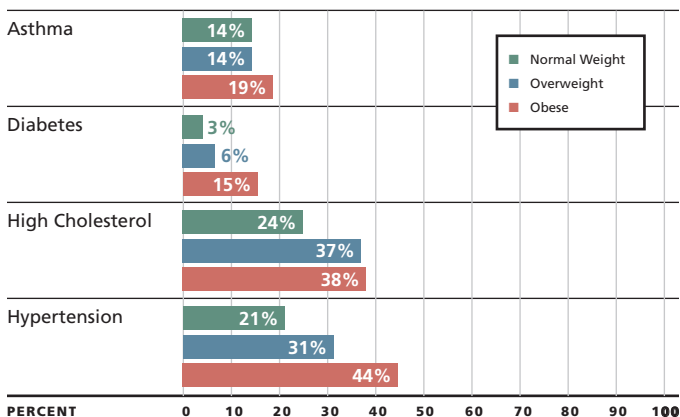
Adults who were overweight or obese were more likely to suffer from chronic diseases such as asthma and diabetes, and have chronic health conditions such as high blood pressure, and high cholesterol. Obese adults were more likely to report asthma, diabetes, high blood pressure and high cholesterol compared to their non-obese counterparts. High blood pressure was more common among obese adults (44%) compared to adults who were overweight and normal weight (31% and 21%, respectively).

Disparities among Overweight and Obese Rhode Island Adults

Gender and Race/Ethnicity

While overweight and obesity affect the entire population, certain racial or ethnic, and gender groups were disproportionately affected. Men were more likely to be overweight or obese compared with women in the same racial or ethnic groups, with the exception of non-Hispanic Black women. Non-Hispanic Black men had the highest prevalence of overweight or obesity (83%) compared to 72% of non-Hispanic white men and 69% of Hispanic men. Overweight in particular was higher among men. Non-Hispanic Black women were more likely to be obese (42%) than women of other racial or ethnic groups and were more likely to be obese than non-Hispanic Black men (27%). Hispanic and non-Hispanic white women were less likely to be obese than the men in the same racial or ethnic group.

2. PREVALENCE OF HEALTH CONDITIONS FOR ADULTS BY WEIGHT STATUS



Data Source: BRFSS 2009, Rhode Island Department of Health, and Centers for Disease Control and Prevention

Income

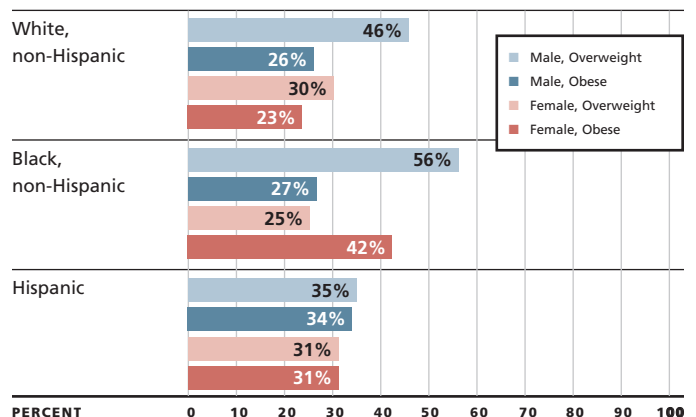
The prevalence of overweight or obesity varied by income but the disparities were not the same for both genders. About 60% of women with less than a \$49,999 annual household income reported being overweight or obese. As income among women increased, overweight and obesity were less common. However, for men at every income level, about 70% were overweight or obese, with some fluctuation, but there was no clear variation by income level.

Weight-Associated Behaviors among Rhode Island Adults

The rapid increase in the prevalence of overweight and obesity among adults over the last few decades can be attributed to changing in eating habits and activity levels. The five behaviors identified by the Centers for Disease Control and Prevention (CDC) that have generally been linked to overweight and obesity are: sugar-sweetened beverage consumption, fast food consumption, fruit and vegetable consumption, physical activity, and screen time

- **Fruit and Vegetable Consumption:** Unhealthy behavior was defined as eating fewer than five servings of fruits and vegetables per day.
- **Sugar-Sweetened Beverage Consumption:** Unhealthy behavior was defined as drinking sugar-sweetened beverages more than once a day.
- **Fast Food Consumption:** Unhealthy behavior was defined as eating fast food more than once a week.

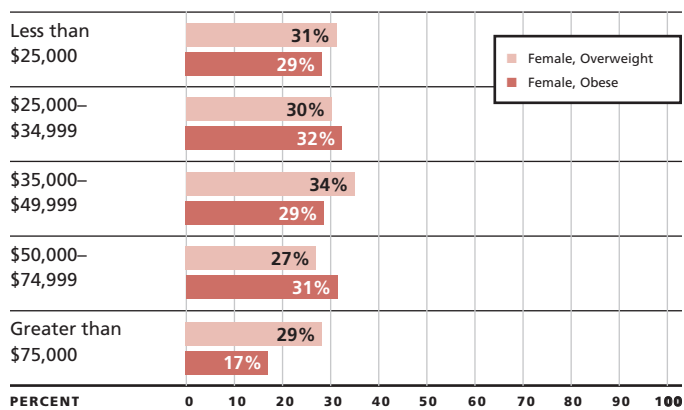
3. PROPORTION OF OVERWEIGHT AND OBESE ADULTS BY GENDER AND RACE/ETHNICITY



Data Source: BRFSS 2009, Rhode Island Department of Health, and Centers for Disease Control and Prevention

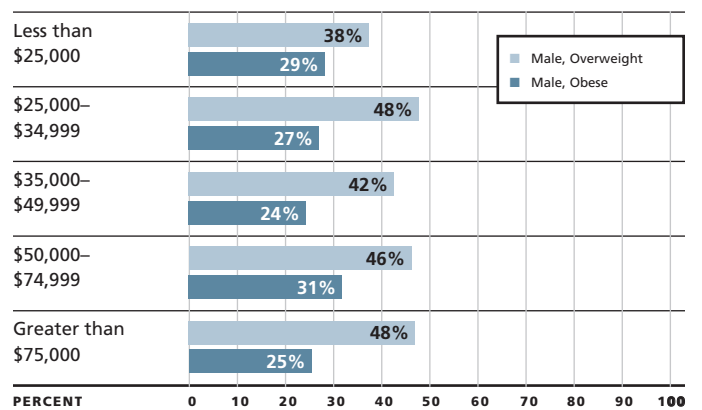


4. PROPORTION OF OVERWEIGHT AND OBESE WOMEN BY INCOME



Data Source: BRFSS 2009, Rhode Island Department of Health, and Centers for Disease Control and Prevention

5. PROPORTION OF OVERWEIGHT AND OBESE MEN BY INCOME



Data Source: BRFSS 2009, Rhode Island Department of Health, and Centers for Disease Control and Prevention

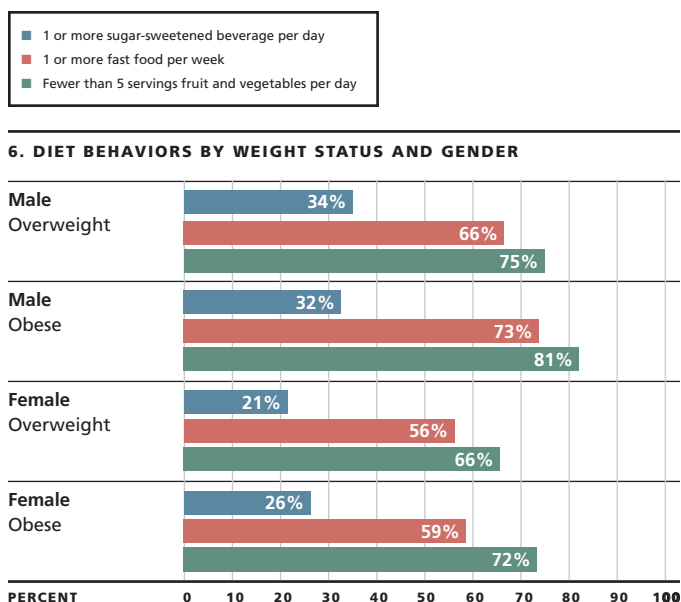
- **Physical Activity:** Unhealthy behavior was defined as participating in fewer than 30-minutes of moderate physical activity, or 20-minutes of vigorous physical activity, five days a week.
- **Screen Time:** Unhealthy behavior was defined as spending more than three hours a day in front of the television (TV).
- **Computer Time:** Unhealthy behavior was defined as more than two hours a day of personal computer or video game use.

Food Behavioral Risk Factors

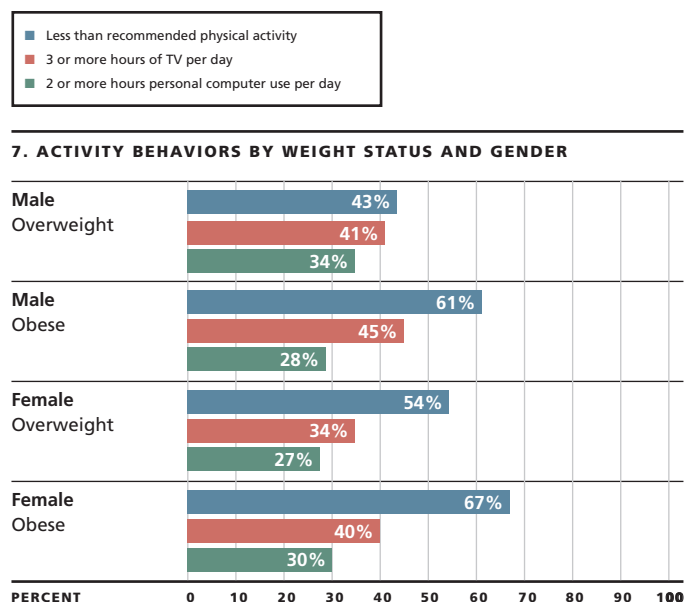
Food behavioral risk factors for overweight and obesity studied among adults included consumption of sugar-sweetened beverages, fast food, and fruits and vegetables. Men were more likely than women to report each of the food behavioral risks. Sugar-sweetened beverage consumption was more common among men (32%) compared with women (22%), as was consumption of fast food (65% and 53%, respectively). Men were less likely to eat five or more fruits and vegetables a day (24%) compared to women (31%). This finding was even more concerning given that men generally consume more food than women, but still reported being less likely to consume five or more servings of fruits and vegetables.

Differences in food behavioral risk factors were not as clear for different levels of weight. A consistent difference in sugar-sweetened beverage consumption by weight status was not observed, meaning higher consumption was not found for those who were overweight or obese compared with those of normal weight. However, consumption of fast food was more common with higher weight status, with 66% of obese and 57% of non-obese adults reporting eating fast food one or more times per week. Consumption of fewer than five serving of fruits and vegetables was more common among obese adults (76%) compared with those of normal weight (70%).

Additionally, Rhode Island adults were at risk for obesity based on activity patterns and sedentary behaviors, including physical activity, TV watching, and computer use. Physical activity below the recommended level was very common, particularly among women (54%) compared with men (48%). Watching three or more hours of TV per day was slightly more commonly reported among those with higher weight status. Women reported watching TV less frequently (36%) than men (41%). Computer use or video game use for two or more hours per day was slightly higher among men (33%) than among women (29%). Because computer use could be at work or as a sedentary leisure activity, it was difficult to interpret as a risk factor.



Data Source: BRFSS 2009, Rhode Island Department of Health, and Centers for Disease Control and Prevention



Data Source: BRFSS 2009, Rhode Island Department of Health, and Centers for Disease Control and Prevention



OVERWEIGHT AND OBESITY AMONG RHODE ISLAND CHILDREN

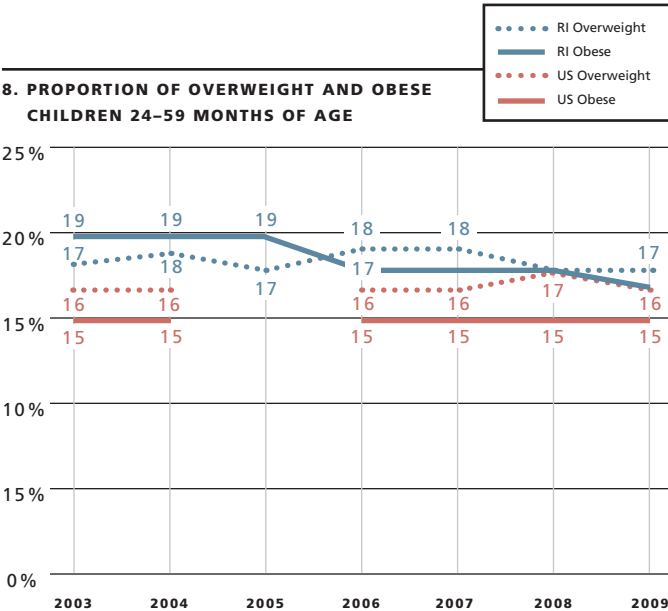
For children, weight status was measured differently at each age depending on what data were available. Please note that comparison of data from different sources can be problematic due to dissimilar methods in data collection.

The weight data for children came from four sources, because no single data source provided information across all child age groups:

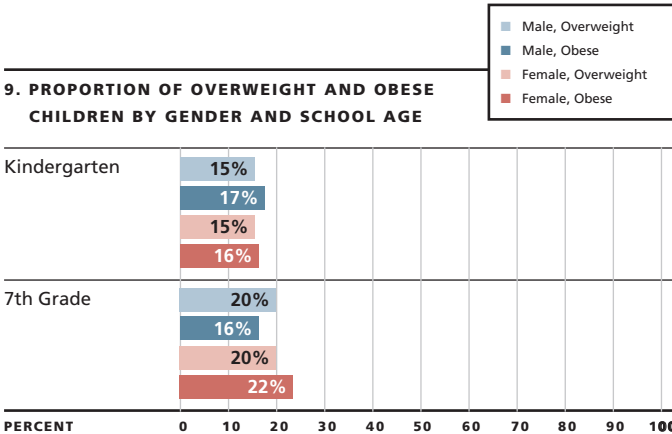
- **National Survey of Children’s Health (NSCH)**
Data was collected over landline telephones to house-

holds with children 18 and younger. Body Mass Index (BMI) was calculated based on reports of the child’s height and weight by a parent or guardian. Only data for children between the ages of 10 and 17 were found to be reliable and were included in this report.

- **Special Supplement Program for Women, Infants, and Children (WIC) Program**
The WIC program collected height and weight data for all enrolled children, and assessed aggregate data for children between the ages of 24 and 59 months.



Data Sources: Rhode Island Special Supplement for Women Infants and Children, 2003–2009; United States Pediatric Nutrition Surveillance System, 2003–2009



Data Source: Rhode Island Special Supplement for Women Infants and Children, 2009; Rhode Island Immunization Program, 2009–2010

- **Immunization Program Data**

Height and weight were recorded for a selected set of kindergarten and seventh grade students from school health forms.

- **Youth Risk Behavior Survey (YRBS)**

High school students were represented by the results of the YRBS, for which students self-reported their height, weight, and behaviors. BMI and weight categories were calculated based on the self-reported data just as the BRFSS data was used for adult data. Due to the limited number of students surveyed, racial/ethnic breakdowns were only available for Hispanic and non-Hispanic white students.

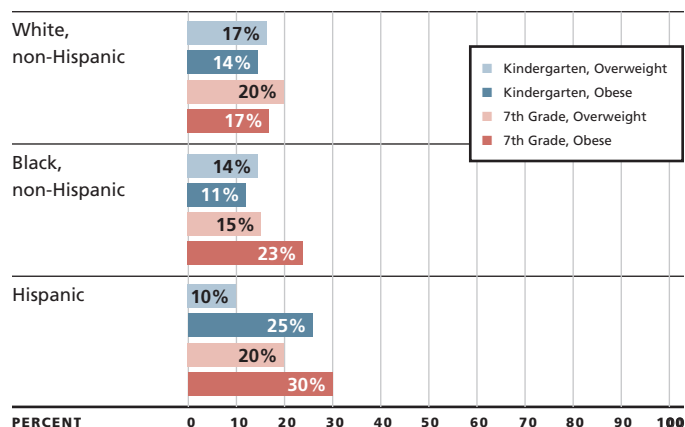
Among children enrolled in WIC, there has been little change in the prevalence of overweight and obesity from year to year. However, Rhode Island children enrolled in WIC were slightly more overweight and obese compared to the US data. About 17% of Rhode Island children enrolled in WIC were measured as obese compared with 15% of children enrolled in WIC in the US. About 18% of Rhode Island children enrolled in WIC were measured as overweight compared with 17% of those in the US. Children from Rhode Island's core cities were slightly more overweight or obese (33%) compared to children in non-core cities (30%). According to the 2010 Census, cities where the child poverty level was greater than 15% were designated as core cities. Rhode Island currently has six core cities: Central Falls, Newport, Pawtucket, Providence, West Warwick, and Woonsocket.

Measured height and weight for children in kindergarten demonstrated a similar pattern of overweight and obesity as found for children enrolled in WIC. Among kindergarteners, 15% were overweight and 17% were obese. Thirty-two percent of girls and 31% of boys were overweight or obese in kindergarten. The proportion of overweight or obesity was higher among seventh grade girls (35%) and boys (42%). Gender differences in overweight or obesity were not apparent among children enrolled in WIC or kindergarteners, but were among seventh graders.

In Rhode Island, disparities by race or ethnicity in overweight and obesity existed as well. About 35% of Hispanic kindergarteners and 50% of Hispanic seventh graders were overweight or obese. Both non-Hispanic White and non-Hispanic Black children had lower proportions of overweight and obesity for both kindergarten and seventh grade.

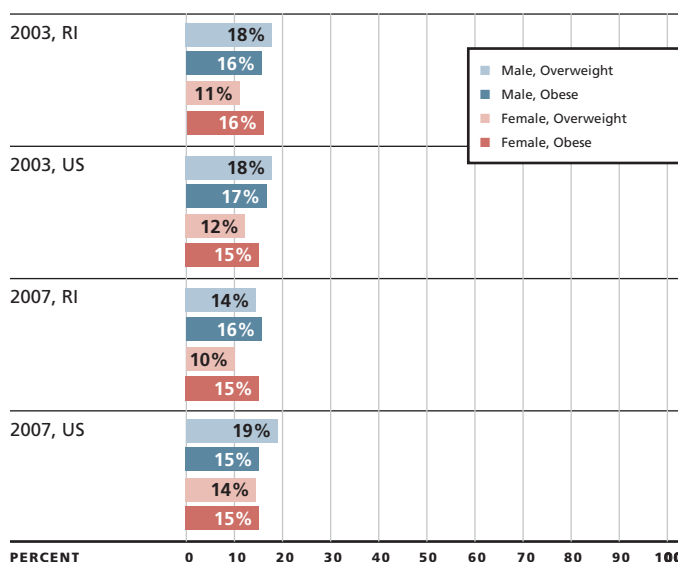
The proportions of children who were overweight and obese were somewhat smaller for the NSCH survey estimates compared with the measured data collected by the Rhode Island Department of Health's Immunization program. The overall pattern for overweight and obesity among children did not change markedly from 2003 to 2007 for children in Rhode Island or in the US as a whole. At each time point and for both genders, children in Rhode Island were at slightly lower risk of overweight and obesity compared with the national estimates. For both Rhode Island and the nation, the boys for each time point were at higher risk of overweight or obesity compared with girls, which supported the trend found for seventh graders.

10. PROPORTION OF CHILDREN OVERWEIGHT AND OBESE BY SCHOOL AGE AND RACE/ETHNICITY



Data Sources: Rhode Island Special Supplement for Women Infants and Children, 2003–2009; United States Pediatric Nutrition Surveillance System, 2003–2009

11. PROPORTION OF OVERWEIGHT AND OBESE CHILDREN



Data Source: National Survey of Children's Health, 2003, 2007



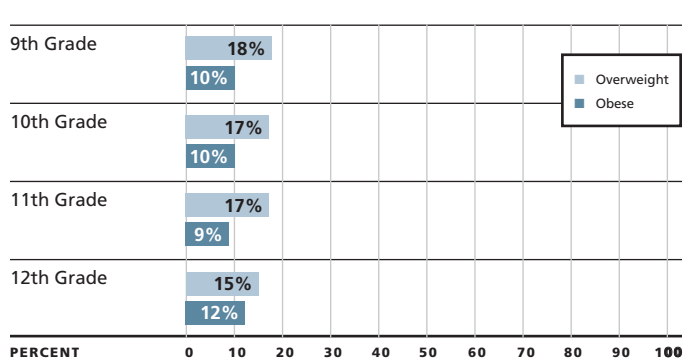
Youth in high school self-reported their height and weight for the YRBS survey, which may bias their data. Just as adults had been shown to under-report weight (women) and over-report height (men), the same trend was seen among high school students. Among high school students, ninth graders had a slightly higher risk of overweight or obesity (28%) compared to 10th graders (27%), 11th graders (26%) and 12th graders (27%).

Disparities in Overweight and Obesity among Rhode Island High School Students

Gender and Race/Ethnicity

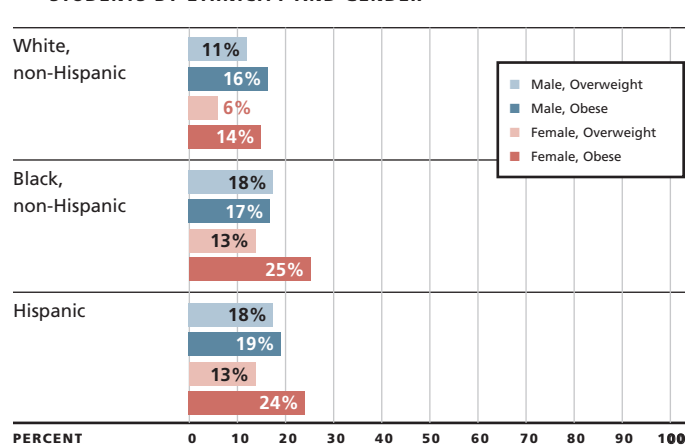
In Rhode Island, disparities by gender and race or ethnicity in overweight and obesity existed. Hispanic and non-Hispanic Black high school students of both genders were at considerably higher risk of overweight and obesity compared with non-Hispanic white high school students. For high school boys, Hispanic boys were more likely to be overweight or obese (37%) than non-Hispanic Black boys (35%) and non-Hispanic white boys (27%). Among high school students, 38% of non-Hispanic Black girls and 37% of Hispanic girls were overweight or obese compared to

12. PROPORTION OF OVERWEIGHT AND OBESE HIGH SCHOOL STUDENTS



Data Source: Rhode Island YRBS 2009

13. OVERWEIGHT AND OBESE HIGH SCHOOL STUDENTS BY ETHNICITY AND GENDER



Data Source: Rhode Island YRBS 2009

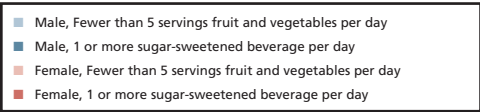
non-Hispanic White girls (20%). The risk for girls was predominantly due to obesity, whereas for boys, the risk was predominantly due to overweight. This was similar to the weight distribution pattern seen in adult men and women (See Figure 3.)

Weight-Associated Behaviors among Rhode Island High School Students

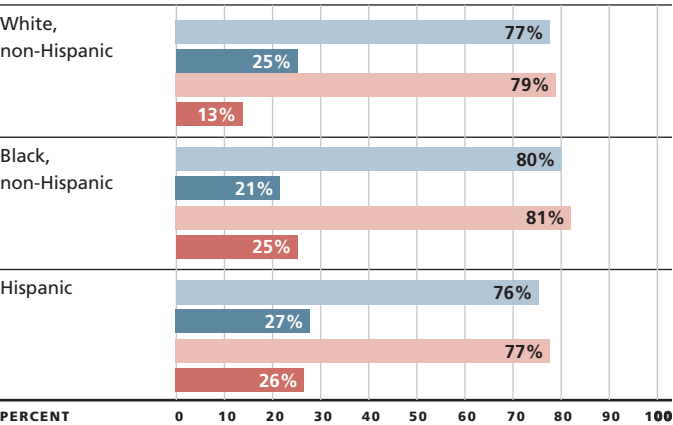
Similar to adults, the risk of overweight and obesity among high school students increased when they engaged in unhealthy food behaviors, which included consuming fewer than five servings of fruits and vegetables per day and consuming a can, bottle or glass of soda or other sugar-sweetened beverages one or more times per day over the past seven days. Of all the weight-associated behaviors reported, inadequate fruit and vegetable consumption was the most common and consistent among high school students, with boys (77%) and girls (79%) consuming fewer than five servings of fruits and vegetables per day. Fairly uniformly, high school boys and girls of all racial/ethnic groups reported consuming this low amount. However, some differences in consumption of sugar-sweetened beverages were found. Boys were more likely to drink one or more sugar-sweetened beverage (25%) than girls (17%). Hispanic girls (26%) and non-Hispanic Black girls (25%) were more likely to consume one or more sugar-sweetened beverage per day compared to non-Hispanic White girls (13%).

Activity patterns and sedentary behaviors were more variable than food-related behaviors. High school girls were at considerably higher risk of being physically inactive than boys. Sixty percent of non-Hispanic White girls reported getting fewer than 60 minutes of physical activity per day on five or more of the past seven days, compared with 72% of non-Hispanic Black girls, and 78% of Hispanic girls. Hispanic boys were more likely to get inadequate physical activity (57%) than non-Hispanic White boys (44%) and non-Hispanic Black boys (50%).

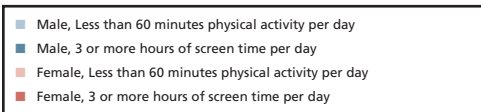
Screen time, which included television and computer time, was higher for non-Hispanic Black (49%) and Hispanic (44%) high school students compared with non-Hispanic White students (22%). Twenty percent of non-Hispanic White girls reported more than three hours of screen time per day compared with 43% of non-Hispanic Black and 43% of Hispanic girls. Twenty-four percent of non-Hispanic White boys reported three or more hours of screen time compared with 44% of Hispanic boys, and 54% of non-Hispanic Black boys.



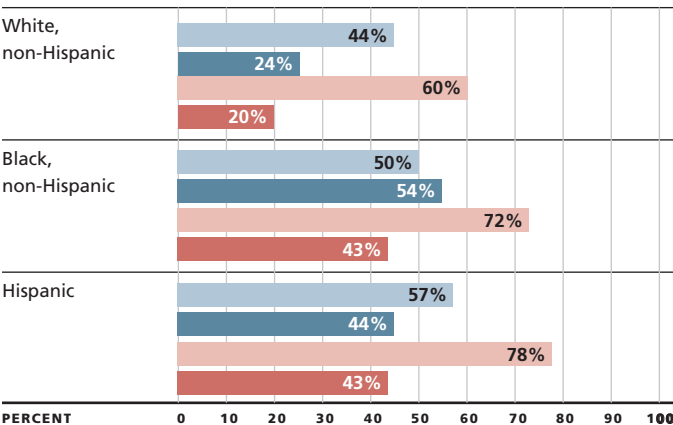
14. FOOD BEHAVIORS AMONG HIGH SCHOOL STUDENTS BY RACE/ETHNICITY AND GENDER



Data Source: Rhode Island YRBS 2009



15. ACTIVITY BEHAVIORS AMONG HIGH SCHOOL STUDENTS BY RACE/ETHNICITY AND GENDER



Data Source: Rhode Island YRBS 2009

BREASTFEEDING AMONG RHODE ISLAND WOMEN

In addition to the many other health benefits of breastfeeding, breastfed babies are at lower risk of obesity than babies who were not breastfed. The positive health effects increase with more breastfeeding. Exclusive breastfeeding offers more protection than a combination of breastfeeding and formula feeding, and longer duration offers more benefits than shorter duration of breastfeeding.

In Rhode Island, over 70% of women breastfed at least once at some point in the first few days of their baby's life, which was lower than the national average of 75%, and the Healthy People 2020 (HP2020) target goal of 82%. These data were collected through a national phone survey of mothers with babies between the ages of 19 and 35 months. Over the past four years, there has been little change in these breastfeeding initiation rates. In Rhode Island, 45% of mothers were still breastfeeding at six months postpartum, and 20% were still breastfeeding at 12 months postpartum compared to the national average (43% and 22%, respectively). In Rhode Island and the nation, women fell well below the HP 2020 goals of 61% and 34% for breastfeeding at six and 12 months.

In Rhode Island, 29% of women reported exclusively breastfeeding at three months postpartum. Exclusive breastfeeding meant that no other food substances were provided in addition to or instead of breast milk at that time. Also, in Rhode Island only 12%, and in the US only

13%, of women were breastfeeding exclusively at six months of age. These compare to the HP 2020 target goal of 44% of mothers exclusively breastfeeding at three months and 24% at six months of age.

Racial/Ethnic Disparities in Breastfeeding

Some differences in breastfeeding were found in Rhode Island's Pregnancy Risk Assessment Monitoring System (PRAMS) between racial or ethnic groups. Hispanic women were more likely to initiate breastfeeding (89%) than non-Hispanic Black women (84%) and non-Hispanic white women (70%). When the infant was one month old, 73% of Hispanic and 70% of non-Hispanic Black women were still breastfeeding, while only 57% of non-Hispanic White women were still breastfeeding. When the infant was two months old, even fewer women were still breastfeeding with 52% of Hispanic women, 58% of non-Hispanic Black women and 48% of non-Hispanic White women breastfeeding. The PRAMS national survey also showed that Hispanic women are more likely to breastfeed. However, the PRAMS national data also showed that non-Hispanic Black women had a higher risk of not breastfeeding than non-Hispanic white women, which was contrary to what was found through the Rhode Island PRAMS data. PRAMS is a verbal or written survey of mothers with infants between three to four months of age.

